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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/577,187

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Marc-Michael Meinecke

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EXAMINER

BRAINARD, TIMOTHY A

ART UNIT

PAPER NUMBER

3662

MAIL DATE

DELIVERY MODE

06/17/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/577,187	Applicant(s) MEINECKE ET AL.	
	Examiner TIMOTHY A. BRAINARD	Art Unit 3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Finality of previous office action has been removed. Since the office action has not been amended from previous action this action is being made final.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 26, 28-30, and 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Voles 6888492. Voles teaches (claim 26 and 40) a measuring device for measuring a distance between the measuring device and at least one object and measuring a speed difference between the measuring device and the at least one object (abs and col 1, lines 10-25), comprising: an emission device adapted to send a transmission signal that includes at least two signal portion sequences, each of a first signal portion sequence and a second signal portion sequence including at least two temporally alternating signal portions, at least two signal portions of a signal portion sequence differing in frequency by one differential frequency, (fig 1 and col 1, lines 10-48), (claim 28 and 41) a reception device adapted to receive a reflection signal of the transmission signal reflected by the at least one object (abs), (claim 29 and 42) a mixer adapted to mix the first signal portion sequence with a portion of the first signal portion sequence of the reflection signal reflected by the at least one object to form a first mixed signal (fig 6, item 17), (claim 30 and 43) an evaluation device adapted to ascertain

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frequencies of the first mixed signal (col 5, lines 58-68). While Voles does not explicitly teach the differential frequency of the first signal portion sequence differing from the differential frequency of the second signal portion sequence, it would have been obvious to modify Voles to include the differential frequency of the first signal portion sequence differing from the differential frequency of the second signal portion sequence because Voles teaches (col 5, lines 30-46) interleaving 4 sequences of pulses (I II III IV). Voles then goes on the state that the sequences could arranged in ascending or descending order or as a mixture of both (col 5, lines 47-49). Interleaving pulses in the sequence of (I IV) and then followed by the sequence (II III) is a differential frequency of a first signal portion sequence differing from a differential frequency of a second signal portion sequence as suggested by Voles.

4. Claims 27, 31-39, and 44-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Voles as applied to claim 26 above, and further in view of Mende et al (WO 0231529). Mende teaches (claim 27 and 52) the measuring device is adapted to be arranged in a motor vehicle (para 6), (claim 31 and 44) the evaluation device is adapted to determine the distance between the measuring device and the at least one object as a function of the frequencies of the first mixed signal (para 15), claim 32 and 45) the evaluation device is adapted to determine the speed difference between the measuring device and the at least one object as a function of frequencies of the first mixed signal (abs and para 15), (claim 33) the mixer is adapted to mix the second signal portion sequence with a portion of the second signal portion sequence of the reflection signal reflected by the at least one object to form a second mixed signal (par a15 and

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16), (claim 34 and 45) the evaluation device is adapted to ascertain the one frequencies of the second mixed signal (para 16), (claim 35 and 47) the evaluation device is adapted to determine the distance between the measuring device and the at least one object as a function of the one of the measured frequency and (b) the frequencies of the first mixed signal and of a dominating frequency of the second mixed signal (para 16 and 17), (claim 36 and 48) the evaluation device is adapted to determine the speed difference between the measuring device and the at least one object as a function of the one of the measured frequency and the frequencies of the first mixed signal and of the one of the measured frequency and the frequencies of the second mixed signal (para 16 and 17), (claim 37 and 49) the evaluation device is adapted to determine a difference between a phase of the first mixed signal and a phase of the second mixed signal (abs), (claim 38 and 50) the evaluation device is adapted to determine the distance between the measuring device and the at least one object as a function of the difference between the phase of the first mixed signal and the phase of the second mixed signal, (claim 39 and 51) the evaluation device is adapted to determine the speed difference between the measuring device and the at least one object as a function of the difference between the phase of the first mixed signal and the phase of the second mixed signal (para 16-18). It would have been obvious to modify **Voies** to include the evaluation device is adapted to determine the distance between the measuring device and the at least one object as a function of the frequencies of the first mixed signal, the evaluation device is adapted to determine the speed difference between the measuring device and the at least one object as a function of frequencies of the first mixed signal, the mixer is adapted to mix

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the second signal portion sequence with a portion of the second signal portion sequence of the reflection signal reflected by the at least one object to form a second mixed signal, the evaluation device is adapted to ascertain the one frequencies of the second mixed signal, the evaluation device is adapted to determine the distance between the measuring device and the at least one object as a function of the one of the measured frequency and (b) the frequencies of the first mixed signal and of a dominating frequency of the second mixed signal, the evaluation device is adapted to determine the speed difference between the measuring device and the at least one object as a function of the one of the measured frequency and the frequencies of the first mixed signal and of the one of the measured frequency and the frequencies of the second mixed signal, the evaluation device is adapted to determine a difference between a phase of the first mixed signal and a phase of the second mixed signal, the evaluation device is adapted to determine the distance between the measuring device and the at least one object as a function of the difference between the phase of the first mixed signal and the phase of the second mixed signal, the evaluation device is adapted to determine the speed difference between the measuring device and the at least one object as a function of the difference between the phase of the first mixed signal and the phase of the second mixed signal because each is one of multiple method of determining the distance and velocity of an object with no new or unexpected results. It would have been obvious to modify **Voies** to include the measuring device is adapted to be arranged in a motor vehicle because it is one of multiple applications of a well know system with no new or unexpected results.

Response to Arguments

5. Applicant's arguments filed 3/22/2010 have been fully considered but they are not persuasive. Applicant argues:.

6. Voles does not teach the differential frequency of the first signal portion sequence differing from the differential frequency of the second signal portion.

Response: Voles teaches in (col 2, lines 17-22) that $\Delta f = F/2N$. Therefore if one were to send $f_1 = f_2 - \Delta f$, $f_1 = f_3 - (2 \Delta f) = f_4 - (3 \Delta f)$ in the sequence of (f_1, f_4) being the first portion and (f_2, f_3) being the second portion the differential frequency in the first portion would be $(3 \Delta f)$ and the differential frequency would be (Δf) as is suggested for $N=2$ in col 5 of Voles

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMOTHY A. BRAINARD whose telephone number is (571)272-2132. The examiner can normally be reached on Monday - Friday 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (571) 272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. A. B./
Examiner, Art Unit 3662

/Thomas H. Tarcza/
Supervisory Patent Examiner, Art Unit 3662